

Statement of Work for Student Services Contract - U4RD16  
Ecological Exposure Research Division  
Molecular Ecology Research Branch  
Cincinnati, OH

1. Project Description:

The Molecular Ecology Research Branch, Genetics Research Group, is responsible for developing genetics-based indicators of ecological condition and to characterize exposure and impacts of different environmental stressors. Invasive species is a biological stressor that the Genetics Research Group is beginning to characterize through several independent projects. The invasion biology projects now underway involve a range of perspectives and tasks, including but not limited to the development of molecular tools for targeting screening of invasive species in aggregate ballast samples and characterizing the hybridization of invasive *Cyprinella lutrensis* populations with other *Cyprinella* species endemic to Southeastern rivers.

2. Description of Student Services:

The student will work within a multi-disciplinary research team, but will be directly mentored by Dr. Michael Blum, a principle investigator (PI) of the Genetics Research Group invasion biology research projects. The student will provide technical laboratory and/or field support for research projects focusing on invasion biology.

Specific duties will support and assist the PI with all tasks involved with molecular genetic data organization and collection. The different tasks include, but are not limited to: (1) tissue and sample collection and organization (2) DNA extractions (3) PCR amplification and purification (4) Genotyping (5) DNA sequencing (6) analysis of genotype and DNA sequence data, and (5) other general laboratory and field duties necessary to carry out research (ie. buffer and sample preparation, routine equipment maintenance).

The student will perform duties, as requested, according to specifications and instructions provided by their mentor. Where appropriate, the student will maintain careful and accurate records in designated laboratory notebooks. These notebooks, and all other data produced under this order will be the property of the Environmental Protection Agency.

Activities conducted by the student or recent graduate will be governed by the EPA quality system, as described in the approved Quality Management Plan for the organization issuing the contract. Therefore, the student or recent graduate must consult with NERL-Cincinnati's quality assurance manager prior to initiating work on this project.

3. Required Expertise, Skills, Education and/or Experience:

The student will be expected to have basic understanding and training in biology, or a related field or sub-discipline such as Genetics, Molecular Biology, Biochemistry, Environmental Sciences, Zoology or Botany. It is preferred, but not mandatory, that the student has prior experience and training in specific molecular biology laboratory work involved in the Genetics Research Group projects, such as DNA extraction and PCR chemistry. If the student does not have such specific training, the student will be expected to undergo a training period (supervised and undertaken with their mentor) to develop these

skills.

#### 4. Required Background Investigation and Suitability Determination:

Students under this contract are required to undergo a background check and check of FBI fingerprint files and a suitability determination by the Environmental Protection Agency. Students awarded a contract will have to complete a Standard Form 85 (SF-85) "Questionnaire for Non-Sensitive Positions" and SF-87 "Fingerprint Charts". All completed forms will be submitted to the ORD. Fingerprints will either be taken at the ORD duty station (upon reporting to work) or students will be notified to have their fingerprints taken at their local police department. If a background check reveals information that indicates the student represents a risk to the interests of the EPA and national security, the contract may be terminated.

#### 5. Description of Working Conditions:

Work will be performed in a laboratory and field setting. Students will be required to wear safety apparel and to closely observe safety requirements.

#### 6. Duration and Compensation:

Work will begin on or about March 1, 2004. The initial contract will be for one year with an option for an additional 12 months. The contract is for one part-time student (20 hours/week). The rate of compensation for this position is dependent on the student's educational background, and will include the cost of self-employment taxes for social security and Medicare.

#### 7. Taxes:

The student is responsible for paying all Federal, State and local income taxes required as a result of income received under this order.

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